Project 2

CS 1323, Fall 2015

# Objectives

1. Put your name in a comment in your code. (5 points)
2. Create a project and class in eclipse. (5 points)
3. Create a main program. (10 points)
4. Compile a computer program. (10 points)
5. Execute a computer program. (10 points)
6. Declare integer identifier(s). (10 points)
7. Declare floating point identifier(s). (10 points)
8. Use a constant. (10 points)
9. Perform an arithmetic operation. (10 points)
10. Write output to the console. (10 points)

10 points will be awarded for the documentation of your program. That means using good names for variables, proper and consistent indentation of code, and meaningful use of whitespace.

Your class name must be Project2\_<YourNameHere>.

Section 10: When your program is completed and running, upload your program to Janux, and have the teaching assistants check it to get credit for the lab. If you do not complete your work during lab, the laboratory assignment must be completed and submitted individually on Janux by 11:59 p.m. on September 7.

Sections 1 and 995: The laboratory assignment must be completed and submitted on Janux by 11:59 p.m. on September 7.

# Description

Write a program to calculate the purchase cost of three different books that are being ordered. You may select your favorite books (prices are available on amazon.com), but I’ve included some of my favorite Java books below. This is how your program could work. You can make artistic changes if you wish, as long as the basic computation is the same.

*Purchase 1 copy of Design Patterns: Elements of Reusable Object-Oriented Software by Gamma, Helm, Johnson and Vlissides. Each copy costs $32.46.*

*Purchase 2 copies of Effective Java by Bloch that you would like to purchase. Each copy costs $35.48.*

*Purchase 4 copies of Java Puzzlers: Traps, Pitfalls and Corner Cases by Bloch and Gafter. Each copy costs $27.86.*

*The total cost of your purchases is: $214.86.*

*Sales tax is: $13.97*

*The total cost of your order will be: $228.83283824* [[1]](#footnote-1)

You should have variables that hold the number of copies of each book purchased, and constants that hold the costs of the books. There should be a variable for the final purchase price. The sales tax rate is 6.5%.

Getting double values to print out nicely like that isn’t easy, and it isn’t required for this project. So if you have lots of extra ugly decimal places hanging around it is just fine. We’ll learn how to make it pretty later in the semester.

# Programming Strategy

The first thing to do is to create a project in your workspace.

Then create a class. You must call it Project2\_<YourNameHere> (no spaces are allowed and it should start with a capital letter).

Eclipse will create a shell for a program that will look something like this. Add a main program, as shown below.

public class Project2\_DeborahTrytten // remember to use your own name ☺

{

public static void main(String[] args) // You add this

{

// Write your code here

}

}

Your code is put where the comment is. Don’t worry about what the stuff above means. We’ll explain it slowly, as the semester goes on.

It is best to write programs methodically. One approach for this program would be to get everything working perfectly for one book, and then repeat the code to get the other two books to work.

To show output with variables:

double price = 5.25;

System.out.println(“The price is $“ + price + “.”);

This will print out: The price is $5.25.

Also, be sure that you meet all of the learning objectives for the project, since this is how we grade projects.

# Section 10: Dual Programming

You will be assigned a partner to work with. You each develop your own programs, but are expected to sit together, talk with each other about the program, and help each other find mistakes and make good decisions. This should make programming assignments less stressful and more fun. We’ll change partners a few times during the semester.

# Section 10: At the End of Lab

If you don't finish this assignment during the lab time:

1. Have the TAs create a grading sheet so you can submit your code later. Students who do not attend lab cannot submit projects.
2. Submit your Java code on Janux before the deadline.

1. For students who are bothered by the ugly decimal points. There are two ways to solve this problem. You can use mathematical operations to turn the double price into integer numbers and print them out as integers. This would be done for both the dollars and cents part. Another possibility for people who have done some object oriented programming is to use a DecimalFormat object. Neither of these techniques is required on this project and no extra credit will be given for solving this problem. [↑](#footnote-ref-1)